

## REMARKS

In response to the Examiner's Office Action of April 19, 2004, Applicants have now amended the claims which had been objected to in order to add the limitations of the prior dependencies, which Examiner has indicated as allowable.

Examiner has rejected claims 1-6, 10-15 and 19, under 35 USC 103(a), as being obvious over the Sorenson patent, U.S. 6,324,548 in view of Konrad, U.S. Patent 5,404,508. These claims 1-6, 10-15, and 19 remain "as-is". Applicants would traverse this 103(a) rejection.

As noted by the Examiner the applied references have a common Assignee with the instant application. Now, since Applicants' filing date is that of November 27, 2001, this date constitutes an application filed after November 29, 1999. Thus, now, according to the attached information which shows the recordation information on the Sorenson and Konrad patents, it will be seen that there is a commonality of ownership and indication that there is a common Assignee to the Unisys Corp:

For Patent No. 5,404,508 (Konrad) the reel and frame number is 6350/0561

For Patent No. 6,324,548 (Sorenson) the reel and frame number is 10128/0649.

Thus, the claimed invention at the time the invention was made, was owned by the same person and subject to an obligation of Assignment to the same person, as indicated in the *Manual of Patent Examining Procedure*, Article 706.02(L)(1), and Article 706.02(L)(2).

Consequently, the rejection under 35 USC 103(a) invention was not "by another".

It may be noted that the Sorenson reference focuses on the following:

A plurality of backup copies of database audit file are concurrently created, and device identifiers referencing respective devices on which the backup copies of the audit file were created and timestamps indicating respective ranges of audit records in the backup copies of the audit file are written to a plurality of move-history files respectively associated with the plurality of backup copies of the audit file.

Applicants primarily focus on the problem of rapidly locating (audit) files within high-capacity tape media. Thus, Applicants treat each tape volume (sometimes a group of tape volumes) referred to as the Tapeset, individually. And more importantly, these tapes are not used *directly* in the recovery process, but rather for archiving in (and retrieval from) tape libraries. Sorenson's invention uses the "move history files" to locate audit files for recovery purposes.

Applicants mainly provide for fast access to high-capacity digital tape media which provide the ability: (1) to obtain positional information of tape blocks, and (2) to use that positional information to locate the tape blocks at a later time. Along the way, it also addresses the problem of tape file naming. According to ANSI naming conventions, tape files consist of two nodes. Applicants' Master Control Program (MCP) database system, the first node is always the name of

the database and therefore, the problem of locating a particular tape is compounded when there could be numerous tape volumes with the same database name available.

Therefore, Applicants propose the concept of Tapeset which is a logical grouping of one or more tape files which may span multiple tape volumes. Note, that this is different from Sorenson's "move history files". The Tapeset and its associated disk directory are (logically) self-contained. The Tapeset is created (and later identified) by putting a special file name as the first file in the Tapeset. Therefore, the OS doesn't have to spend time searching through several tape volumes before locating the correct file (which was the main deficiency in the prior art). Once the correct Tapeset is located, the associated disk directory not only tells the list of files and tape volumes comprising the said Tapeset, but also tape block information needed to position rapidly at the correct audit file within the Tapeset. This is the crux of the invention.

Sorenson's invention locates tapes using the "move history file". Applicants' system (1) creates the whole Tapeset automatically, and (2) obtains the disk directory file from the Tapeset itself. Sorenson doesn't claim anything to do with tape positions, ability to locate an audit file within the Tapeset rapidly, or appending to a Tapeset rapidly, as Applicants' does.

Konrad's invention seems to be unrelated to the present application. Konrad teaches the use of remote hosts in disaster recovery situations and is functionally similar to the Remote

Database Backup (RDB) product of Unisys systems. In fact, Konrad doesn't even claim any method of organizing audit information on secondary storage, nor does it claim any method of rapidly appending or retrieving audit information. It is more focused on how the secondary database on a remote host can be maintained on an up-to-date basis with the least burden on the primary processing units.

Now, in regard to the Sorenson reference, it would be helpful to look at what the Sorenson claim 1 says as to the substance of the Sorenson process.

Here, we have -- a computer implemented database backup process comprising:

- Creating a backup copy of the database;
- Writing to a first history file, a time-stamp indicating a time at which the backup copy was created;
- Concurrently creating a plurality of backup copies of a database audit file.
- Writing to a plurality of move-history files respectively associated with a plurality of backup copies of the audit file --- plus, the device identifiers referencing respective devices on which the backup copies of the audit file were created --- and time-stamps indicating respective ranges of audit records and the backup copies of the audit file;
- Receiving the request to create a backup copy of the audit file;

- Selecting one of the plurality of move-history file, a selected move-history file;
- If the selected move-history file is locked, preventing creation of the backup copy of the audit file;
- If the selected move-history file is not locked, locking the selected move-history file prior to creation of the backup copy of the audit file; and
- Unlocking the move-history file after creation of the backup copy of the audit file.

There is no teaching in Sorenson of creating a Tapeset for a group of audit files, nor is there initializing a disk directory file to hold positional information of the Tapeset.

Now, it would be useful to notice the Konrad patent, claim 1, which involves --- in the data processing system, including a transaction processing transactions against a primary database and logging audit information related to the transactions, and first and second audit storage devices directly coupled to the data processing system, a method for maintaining a backup database of the primary database, comprising the steps of:

- establishing a backup database of the primary database, wherein the backup database is initially a copy of the primary database;
- receiving transactions to process against the primary database;

- updating the primary database according to said transactions;
- writing, by the transaction processor, the audit information in a first audit file stored on the first audit storage device, and in a second audit file stored on the second audit storage device;
- continuously reading said audit information from the second audit file, as said audit information is written and said second audit file is available for reading; and
- updating the backup database according to said audit information stored in said storage when said reading step detects that said storage is available.

Quite differently from Konrad, it should be noted that Applicants' system refers to the field of magnetic tape drives and to an improved method for tracking audit files spanning multiple tape volumes. The handling of multiple tape volumes, as done by Applicants, are quite different from the problems faced in merely doing backup files as done by Sorenson and Konrad. Konrad provides for the expedited handling and retrieving of audit files contained on tape when performing a database recovery, which also works to create a common name for the grouping of audit files spanning one or more tape volumes. Rather, Applicants provide positioning information of audit files which are contained on tape.

Thus, while there is some similarity from the standpoint of the utilization of data backup files in each case,

it will be seen that Applicants provide a much more sophisticated function in using tape volumes for data storage and allows the areas of the tape volumes to be identified and numbered and also retrieved, as needed. Thus, Applicants have provided handling which involves a much more sophisticated access to what are called "tape sets", and this function is not contemplated or addressed by the subject two references of Sorenson and Konrad.

It is therefore requested that Examiner no longer apply the two cited references which were cited to Sorenson and Konrad, since these references are all commonly owned with the instant invention. As a result of the considerable differences of handling of accessing data on tape, it is respectfully requested that Examiner allow Applicants' extant claims, in addition to the objectionable claims which have been re-written.

Further, the Examiner has based a rejection on the combination of the Sorenson system, which he claims could be modified by the Konrad system, whereby the Konrad system teaches a disk directory file to hold positional information which could then be applied to the Sorenson system.

It should be indicated that this is not a proper rejective position, since there is nothing in the Sorenson patent which suggests or intimates that the disk directory file of Konrad could be included into the Sorenson system.

The majority of Court cases will indicate that unless there is some statement or suggestion in the original reference as to why some other technology should be included in it, it is improper to make a combination of these two references to reject a claim.

In view of the above, it is now respectfully requested that Examiner consider Applicants' claims as a whole in their entirety, and subsequently provide a timely Notice of Allowance therefor.

Respectfully submitted,

By Alfred W. Kozak  
Alfred W. Kozak  
Reg. No. 24,265  
(858) 451-4615  
(949) 380-5822

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Date:

July 14, 2004

Patti S. Freddy

Patti S. Freddy